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Figure
1

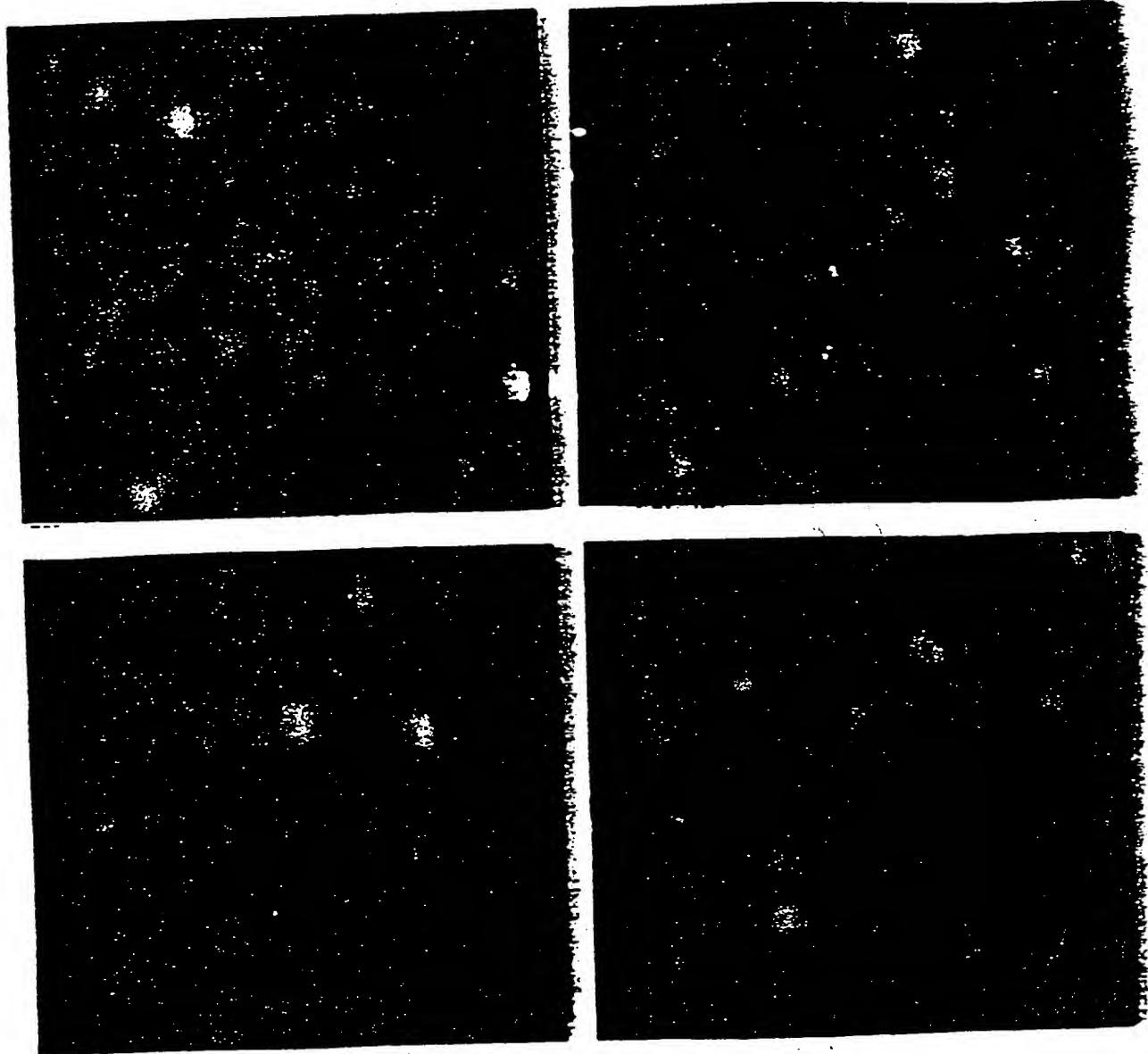
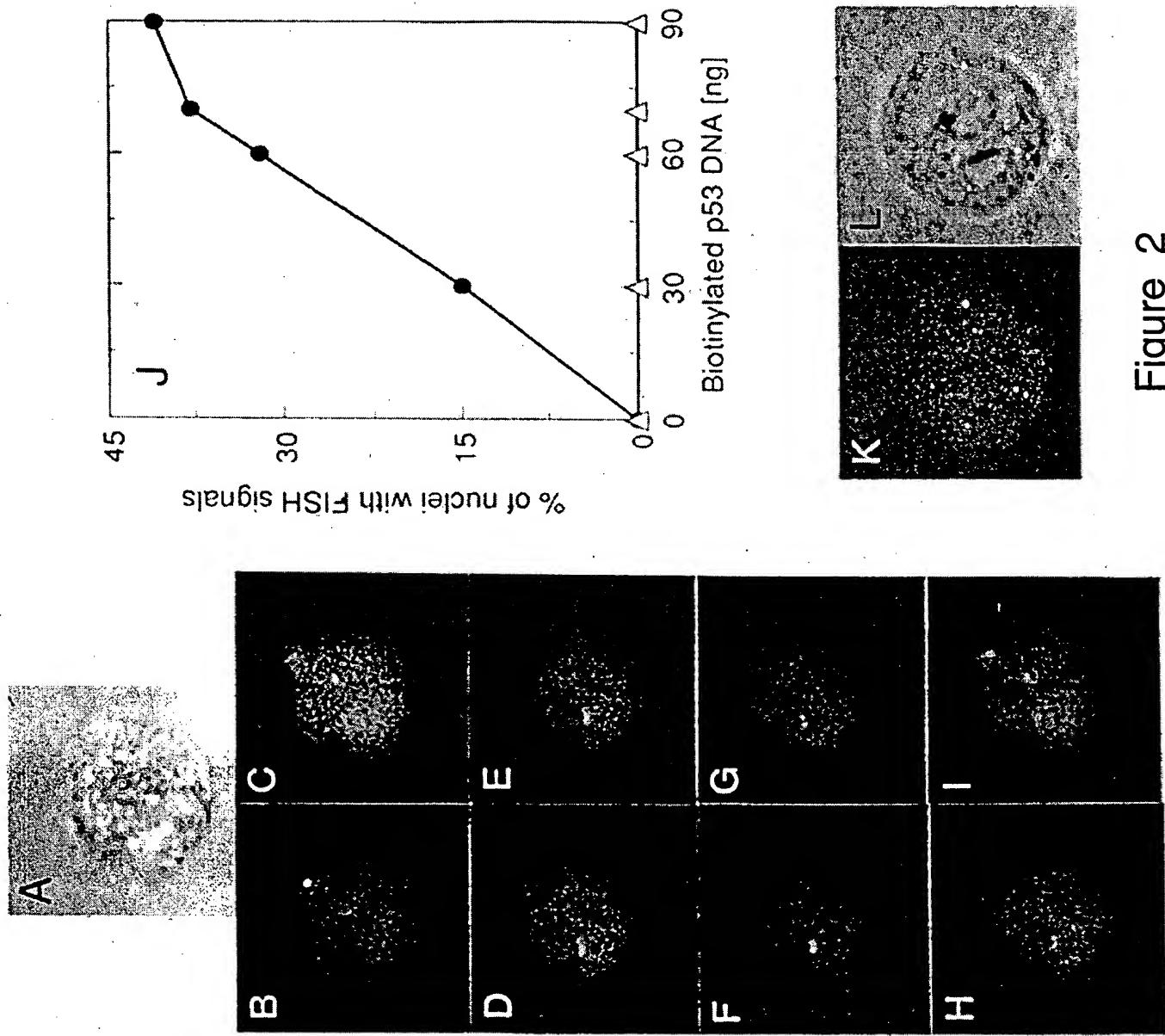


Figure 2



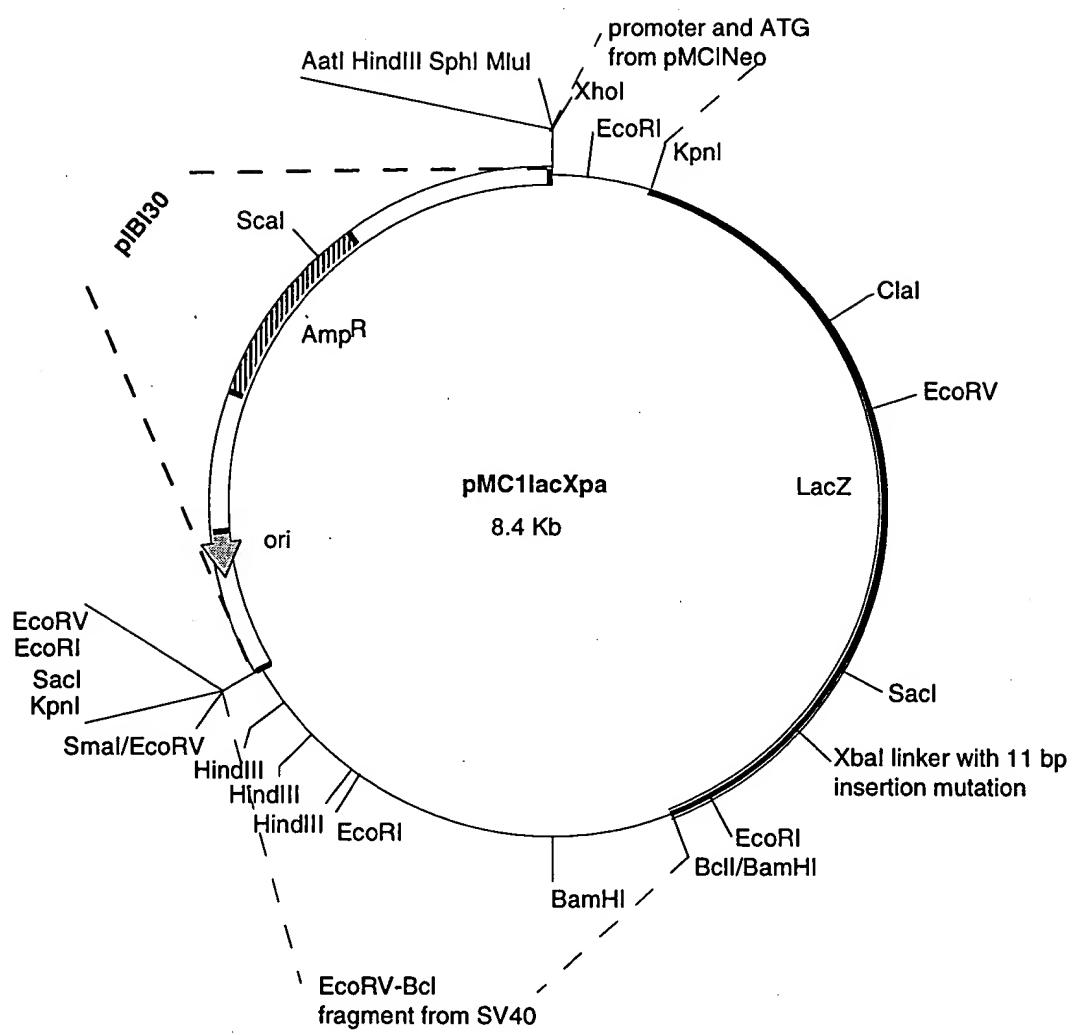


FIGURE 3

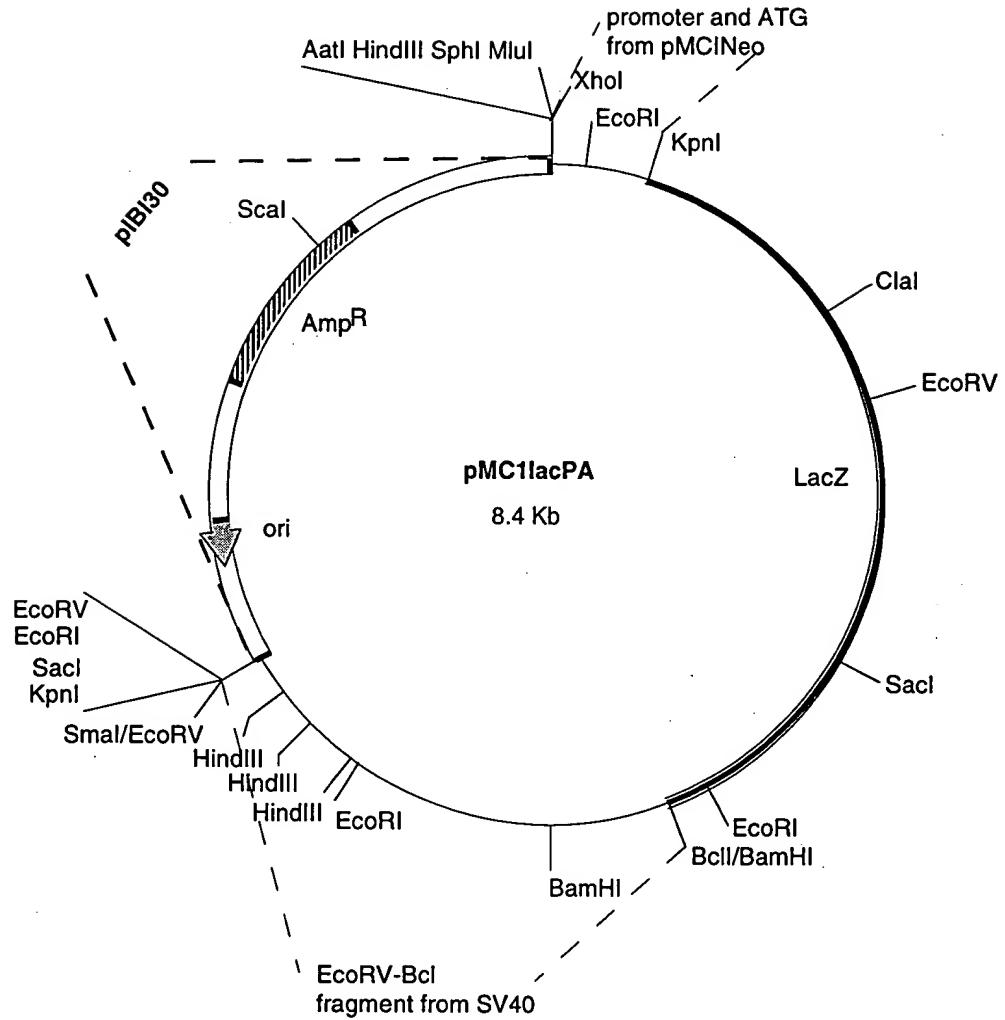


FIGURE 4

Figure 5

3610 3620 3630 3640 3650 3660
 ATAAAAAAACAAC TGCTGACGCCGCTGCGCGATCAGTTACCCGTGCACCGCTGGATAACG

3670 3680 3690 3700 3710 3720
 ACATTGGCGTAAGTGAAGCGACCCGCATTGACCCTAACGCCCTGGGTCAACGCTGGAAAGG

PCR α

3730 3740 3750 3760 3770 3780
 CGGCGGGCCATTACCAGGCCAAGCAGCGTTGTTGCAGTGCACGGCAGATACTTGCTG

3790 3800 3810 3820 3830 3840
 ATGCGGTGCTGATTACGACCGCTCACGCGTGGCAGCATCAGGGGAAAACCTTATTATCA

CTCTAGACGCG Xba Linker with 11bp insertion

3850 3860 3870 3880 3890 3900
 GCCGGAAAACCTACCGGATTGATGGTAGTGGTCAAATGGCGATTACCGTTGATGTTGAAG

3910 3920 3930 3940 3950 3960
 TGGCGAGCGATAACACCGCATCCGGCGCGGATTGGCCTGAACTGCCAGCTGGCGCAGGTAG

PCR β

3970 3980 3990 4000 4010 4020
 CAGAGCGGGTAAACTGGCTCGGATTAGGGCCGCAAGAAAATATCCCACCGCCTTACTG

**TEST FOR ALTERATION OF AN INSERTION MUTATION IN THE lacZ
(β -GALACTOSIDASE) GENE OF EUKARYOTIC EXPRESSION VECTOR**

Experimental Sample	Injected Plasmid, 276-mer DNA and RecA Protein	Number of Injected Surviving Cells	Number of Surviving Cells Scoring Blue	Surviving Cells Scoring Blue (%)
1	pSV- β -gal -276-mer - RecA	168	21	12.5
2	pMC1lacpa - 276-mer - RecA	98	9	9.2
3	pMC1lacXpa - 276-mer - RecA	173	0	0
4	pMC1lacXpa + 276-mer - RecA	103	0	0
5	pMC1lacXpa + 276-mer + RecA	168	6	3.6

Figure 6

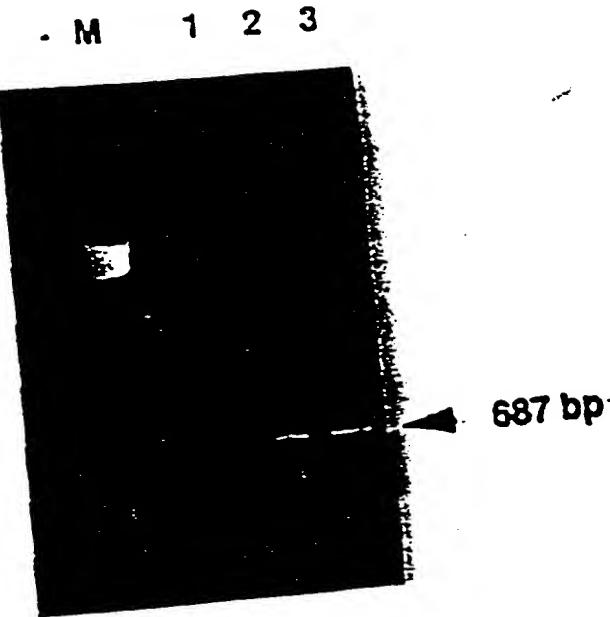
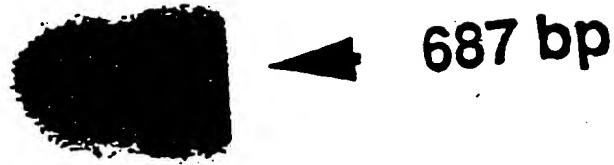


Figure
7A

Control (Σ CF)
 T^{Σ} CF Microinjected
 T^{Σ} CF P.L

Figure
7B



687 bp

1 2 3 4 5 6

300 →

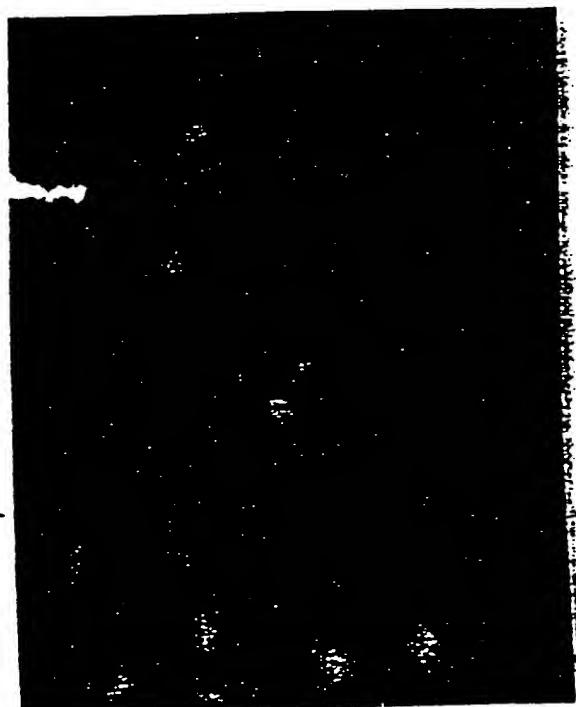


Figure
8A

1 2 3 4 5



Figure
8B

299

299

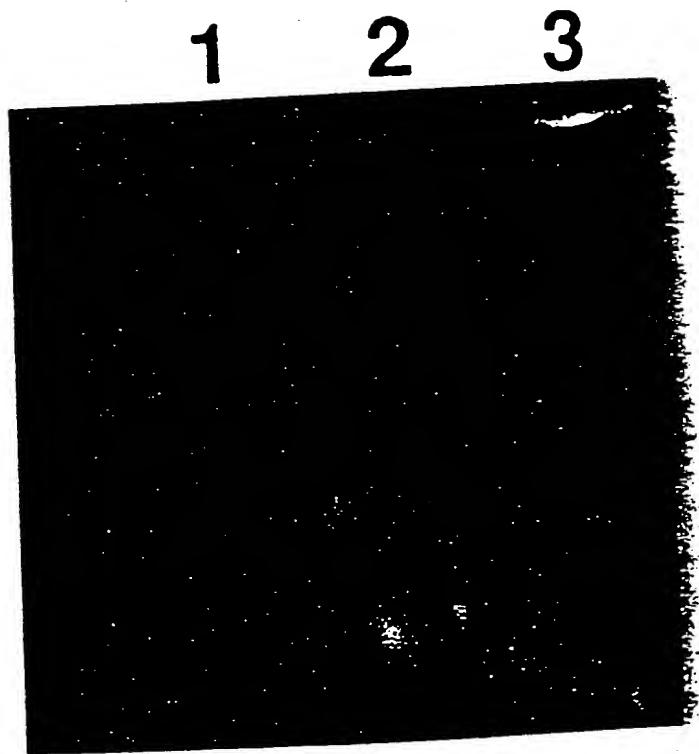


Fig 9

Scheme for recombination assay

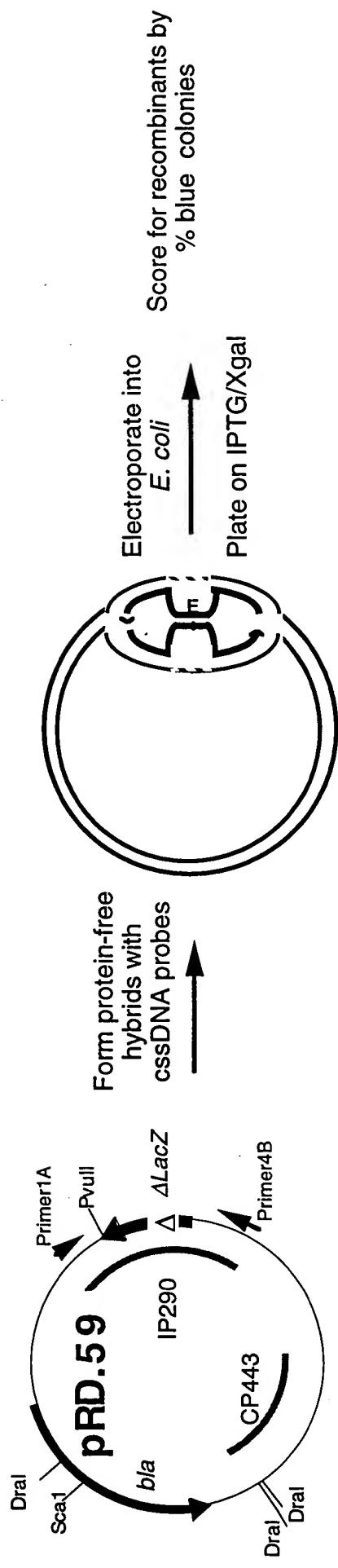


Figure 10

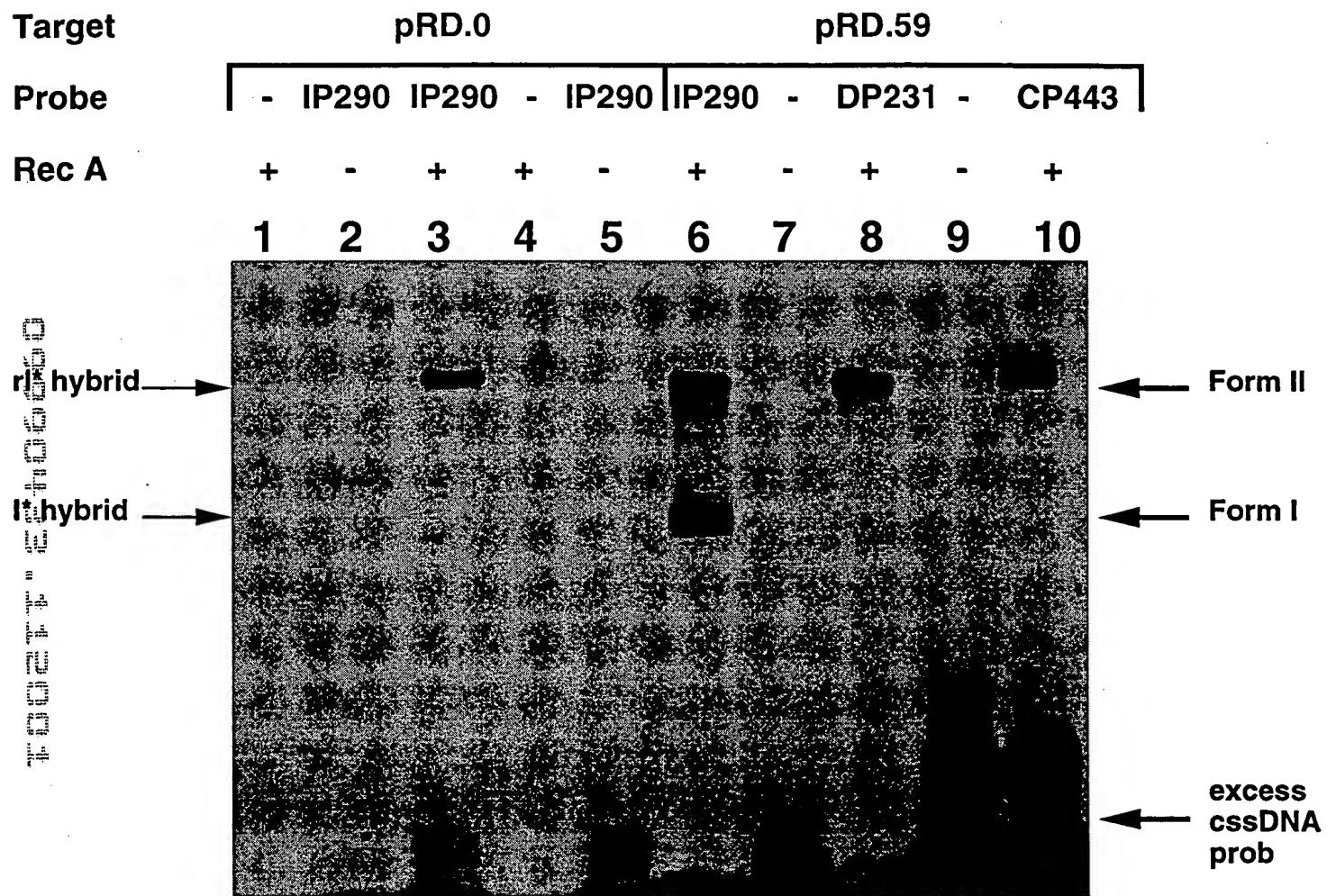


FIGURE 11

cssDNA Probe: Target Hybrids Enhance Homologous Recombination

Target	Probe	RecA coating	Host	%Recombinant / total colonies
pRD.59	-	+	RecA+ RecA -	0 0
	-	+		
pRD.59 IP290	-		RecA+ RecA -	0 0
	IP290	-	RecA+ RecA -	3 0
pRD.59 IP290	+		RecA+ RecA -	0 0
	IP290	+		
pRD.59 DP290	-		RecA+ RecA -	0 0
	DP290	-	RecA+ RecA -	0 0
pRD.59 DP290	+		RecA+ RecA -	0 0
	DP290	+		
pRD.59 CP443	-		RecA+ RecA -	0 0
	CP443	-	RecA+ RecA -	0 0
pRD.59 CP443	+		RecA+ RecA -	0 0
	CP443	+		

Figure 12

Unstable

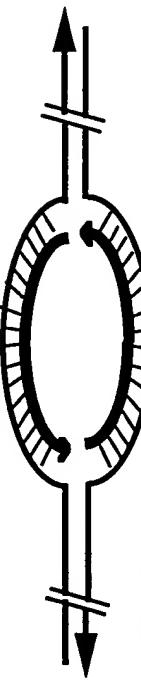
Four-strand hybrids

All DNA probe and target strands are paired

Three-strand hybrids

Certain regions of DNA probe or target strands are unpaired

A. Target DNA completely homologous



Internal Homology Clamp
formed by cssDNA probe

B. Target DNA with a deletion



Internal Homology Clamp
formed by cssDNA probe

C. Target DNA with an insertion



Internal Homology Clamp
formed by dsDNA target

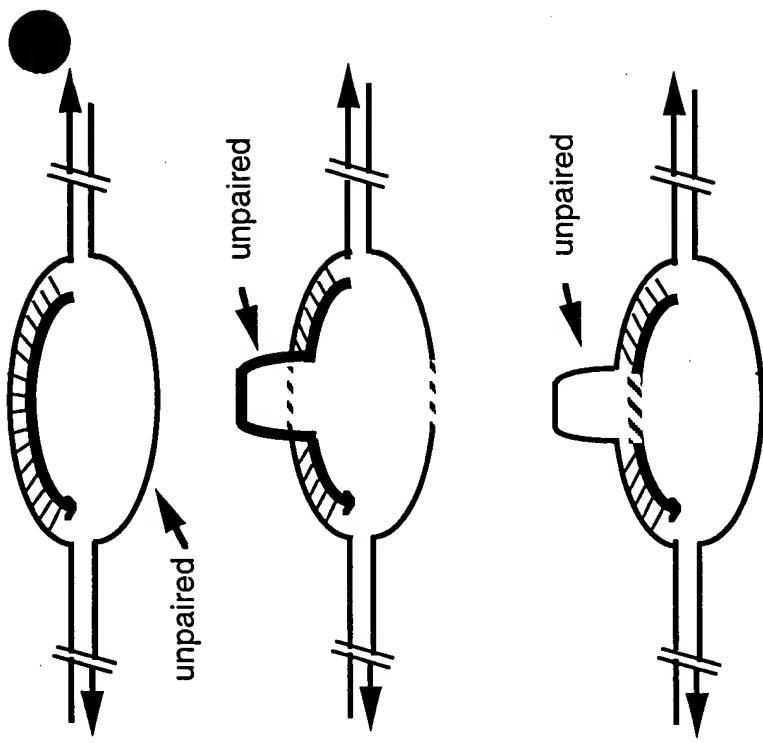


Figure 13

Figure 14A

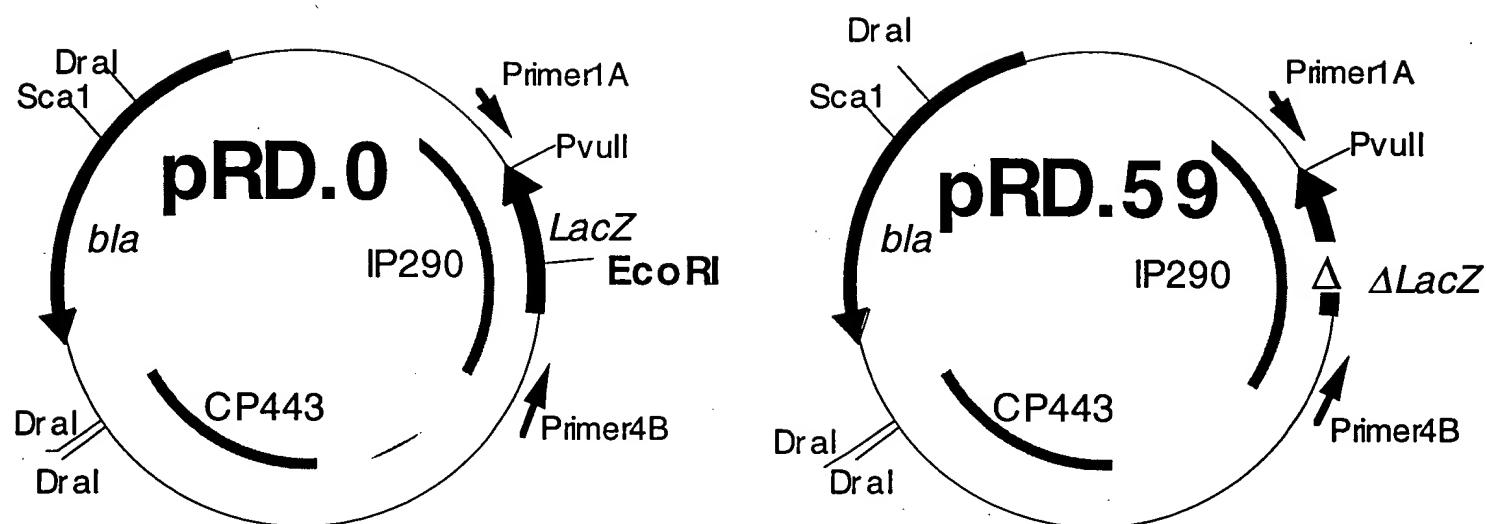
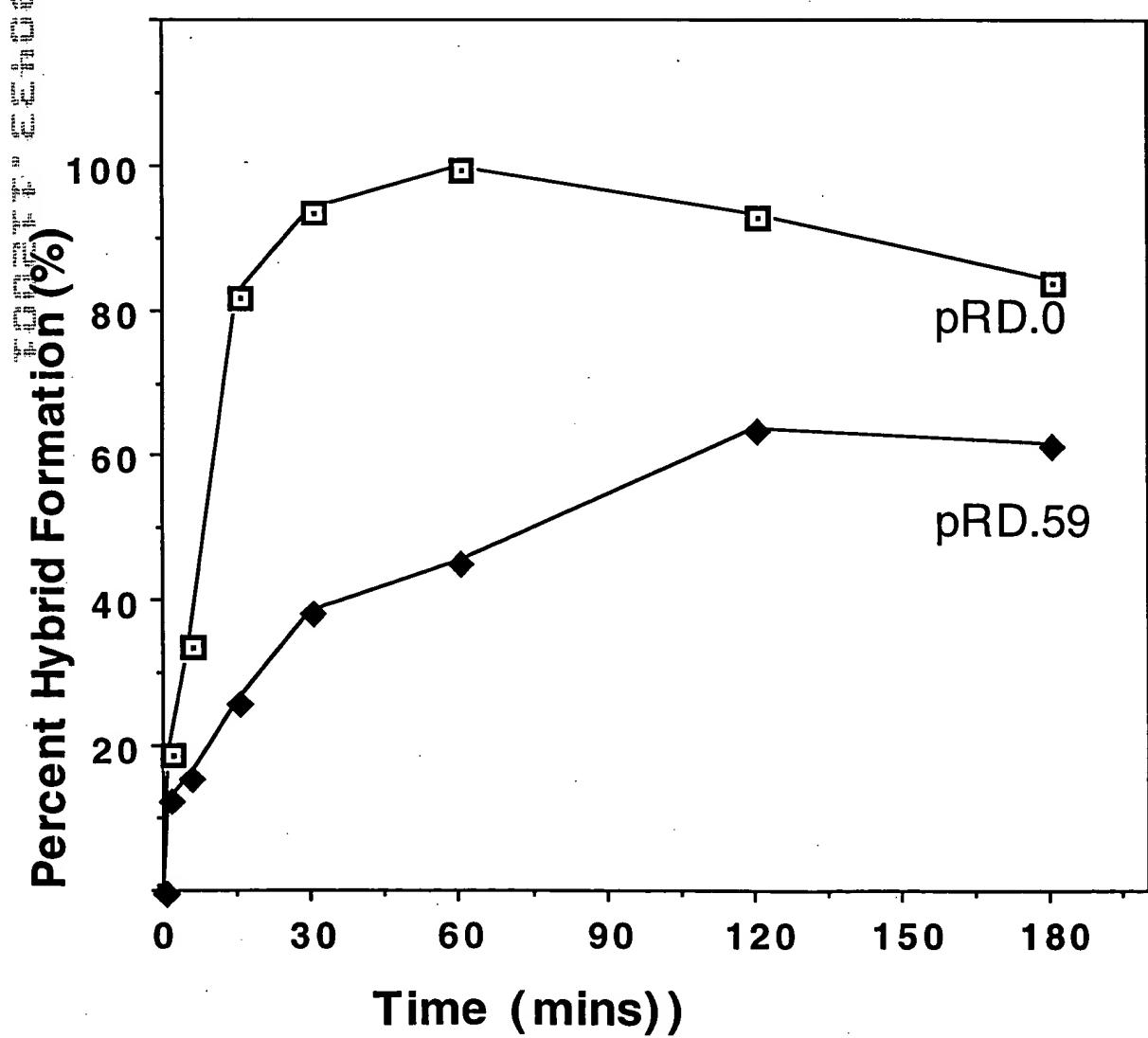


Figure 14B



A.

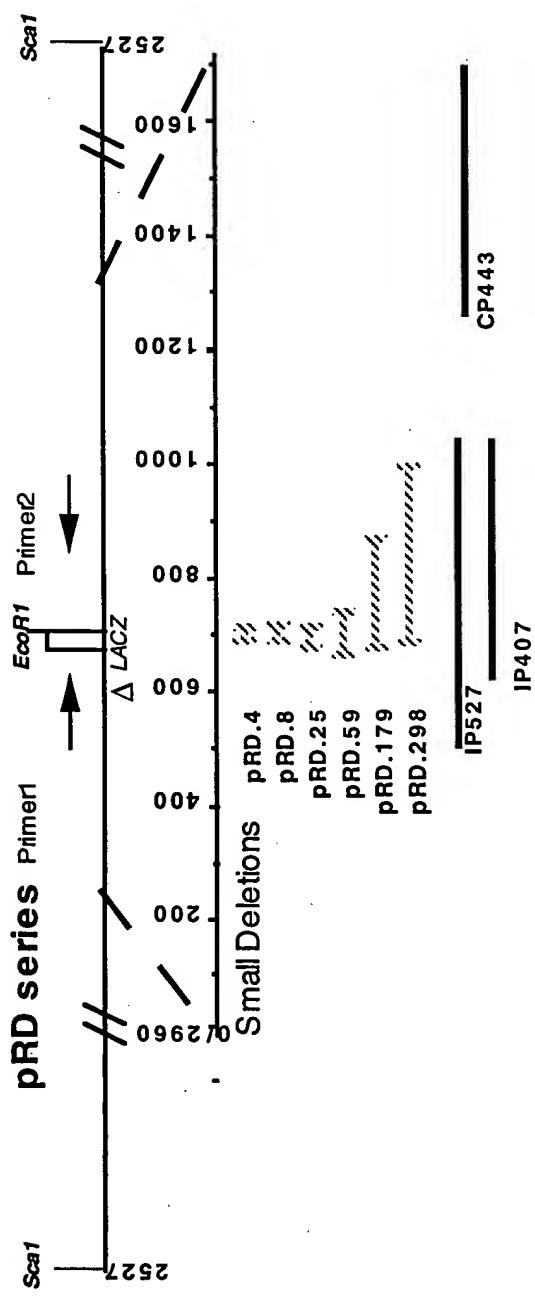


Figure 15A

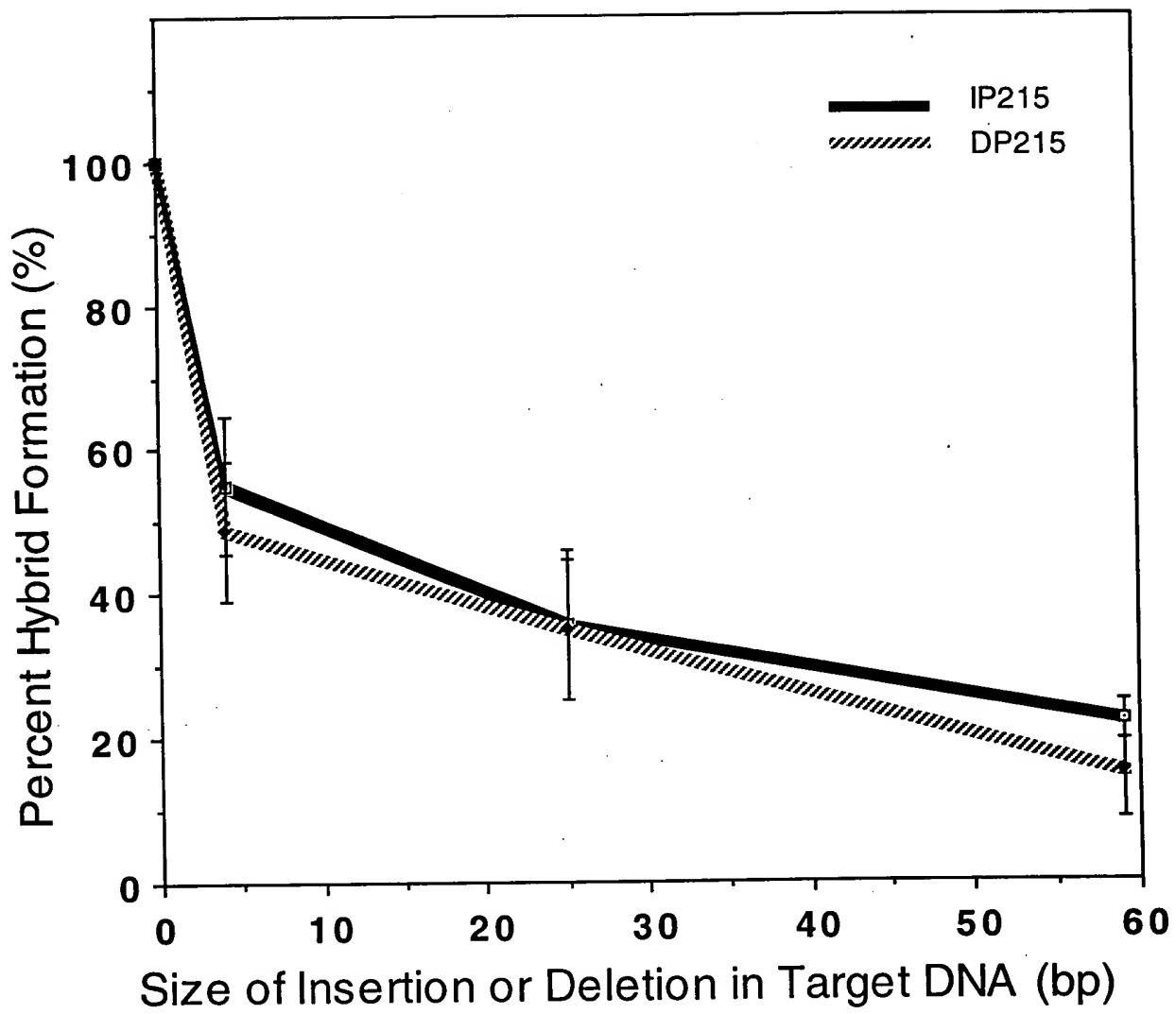


Figure 16

Figure 15B

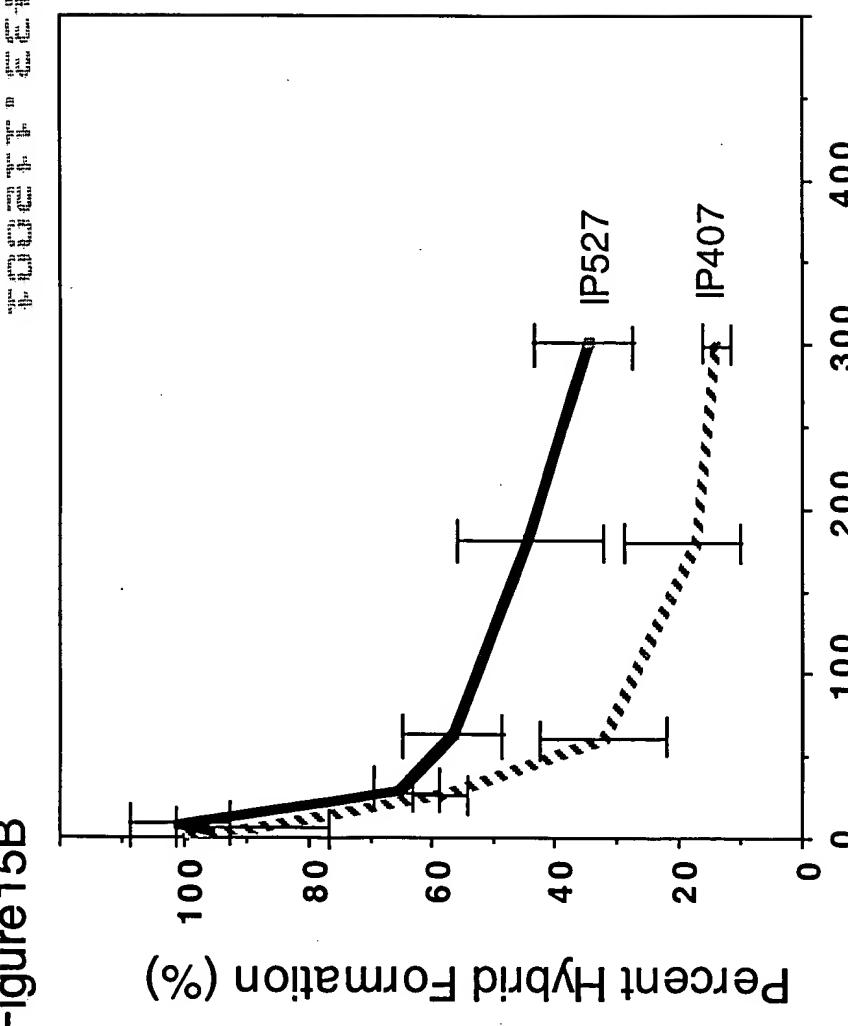


Figure 15C

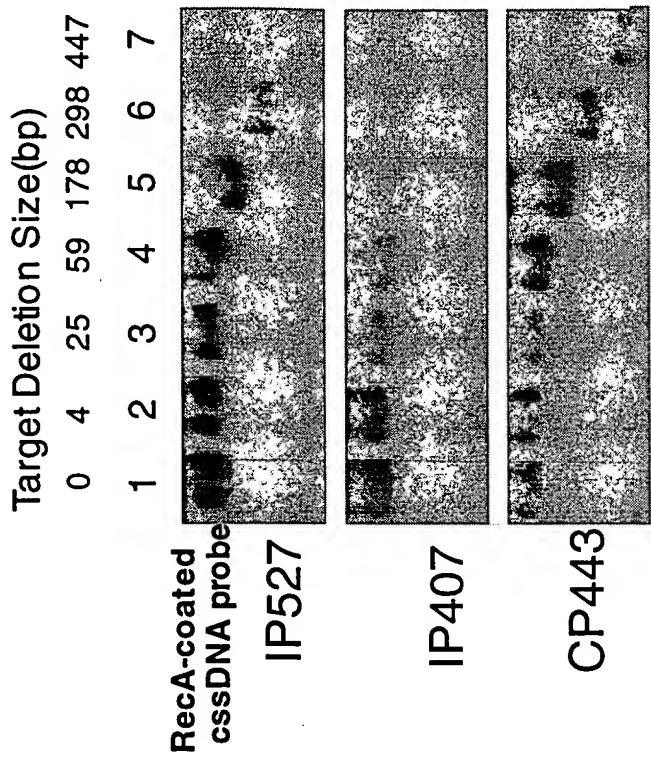
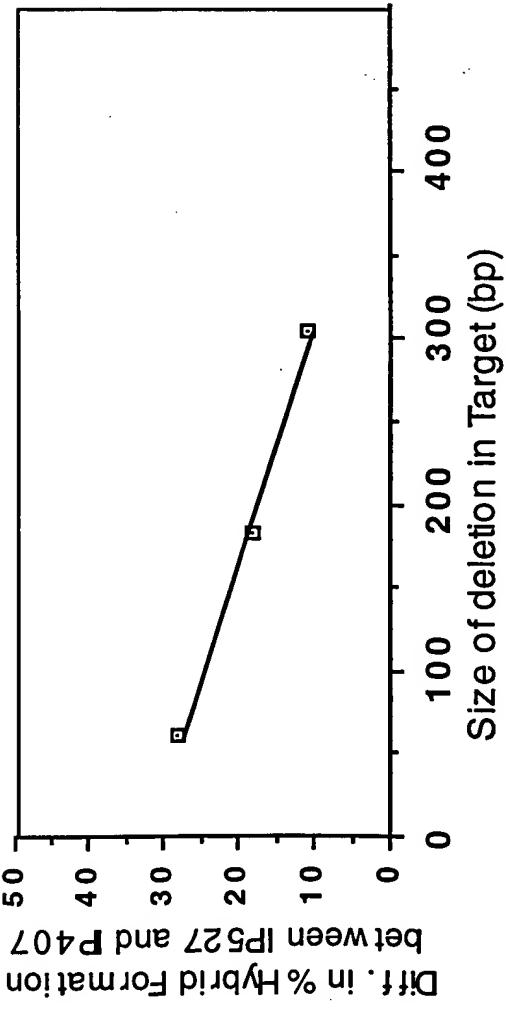


Figure 15D



Diff. in % Hybrid Formation between IP527 and P407

Figure 17A

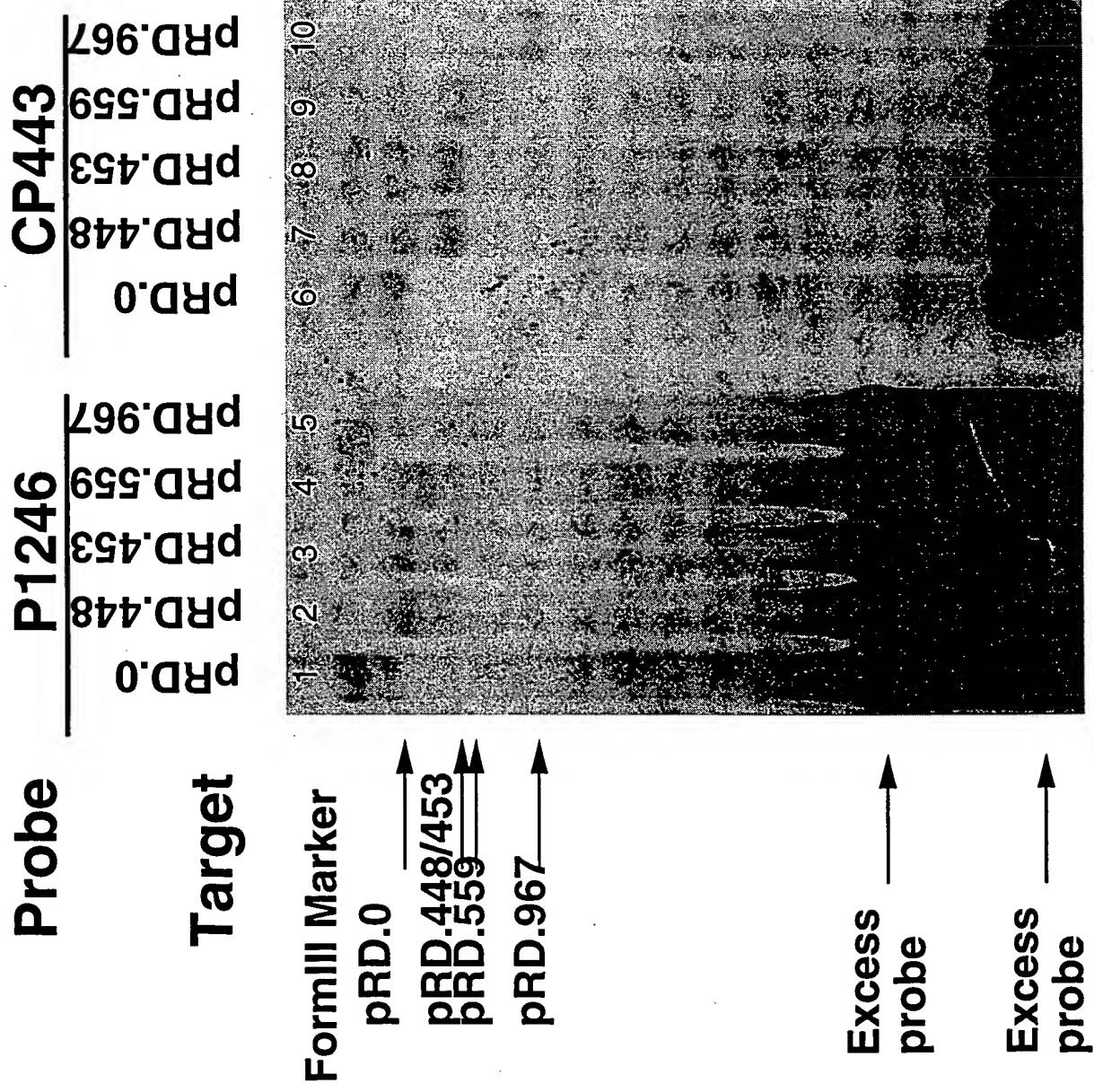


Figure 17B

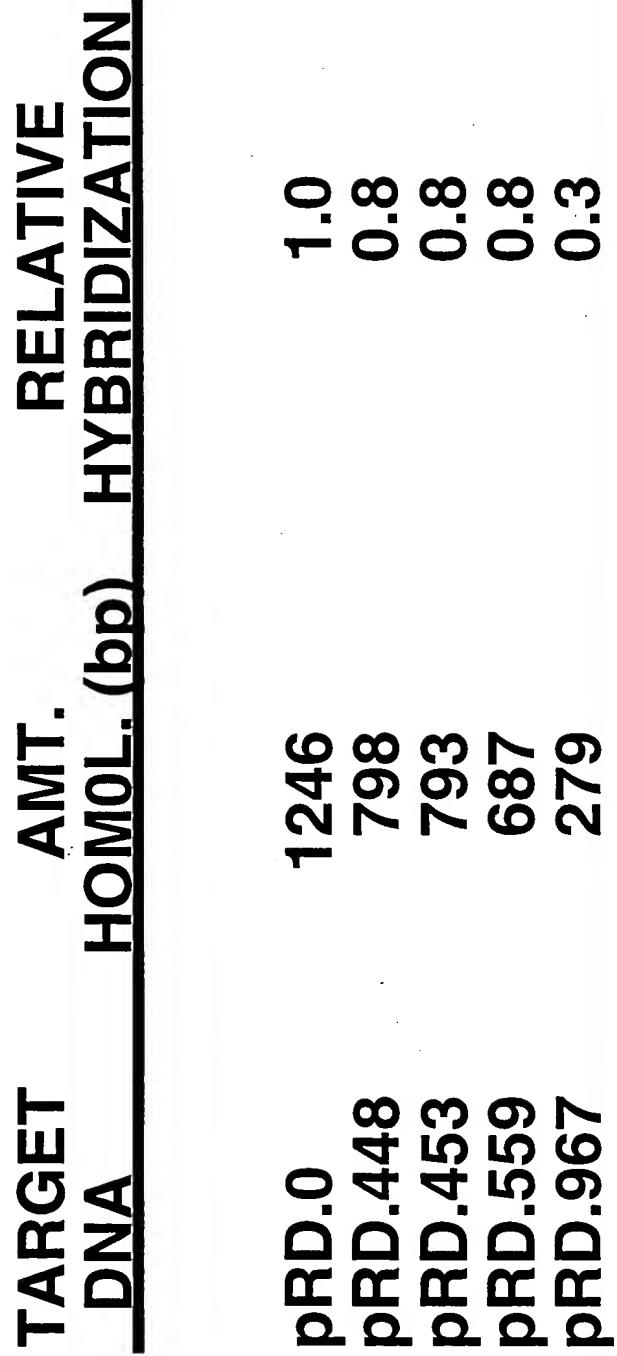


Figure 17C

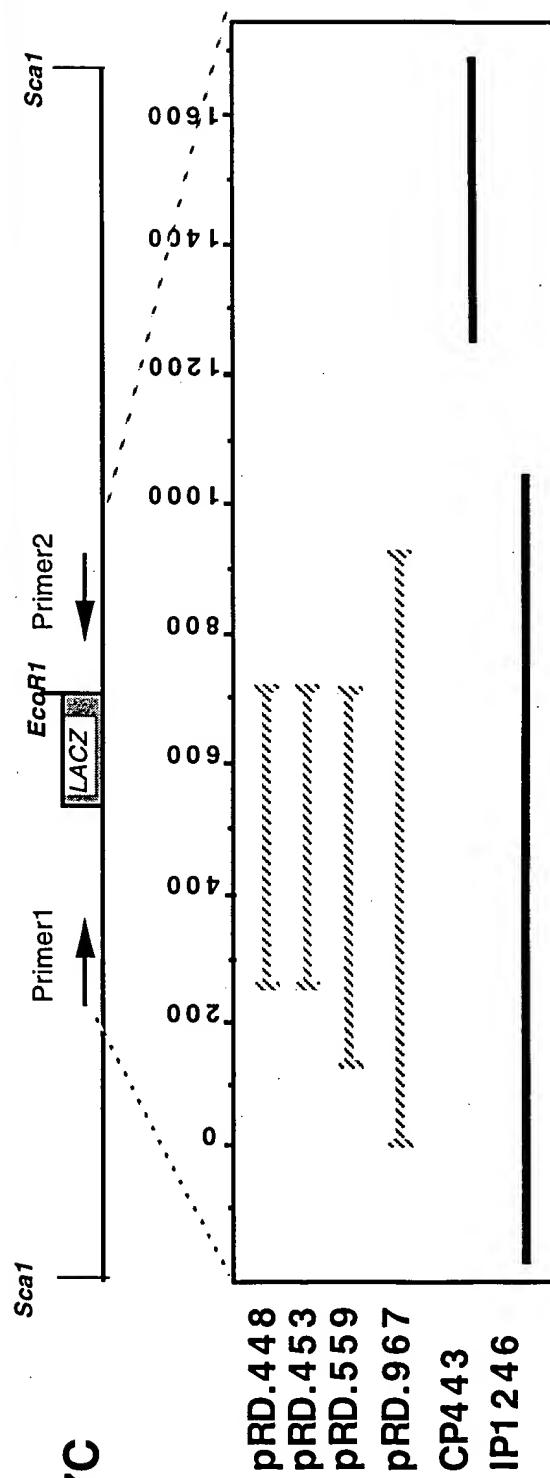


Figure 18

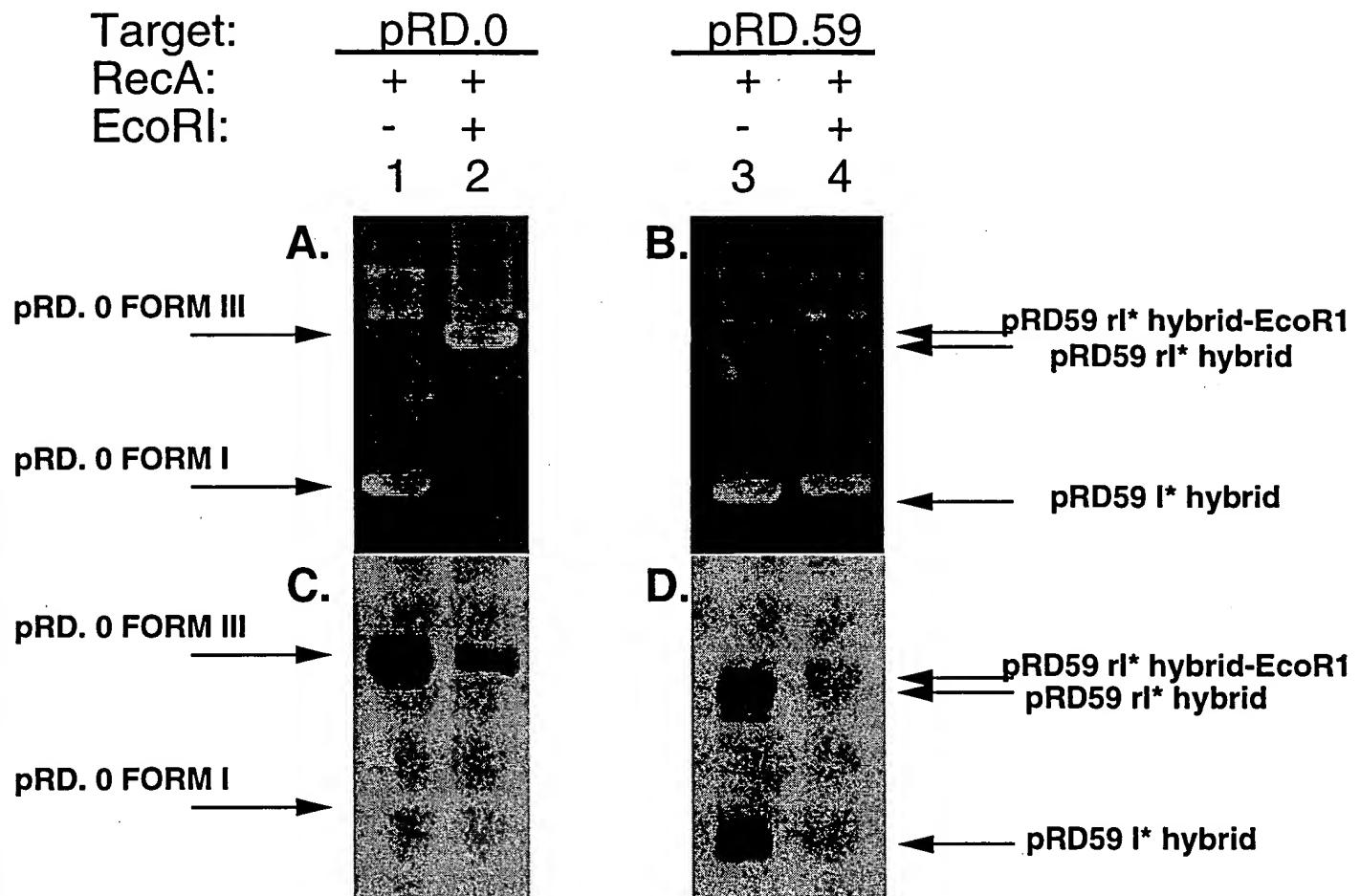
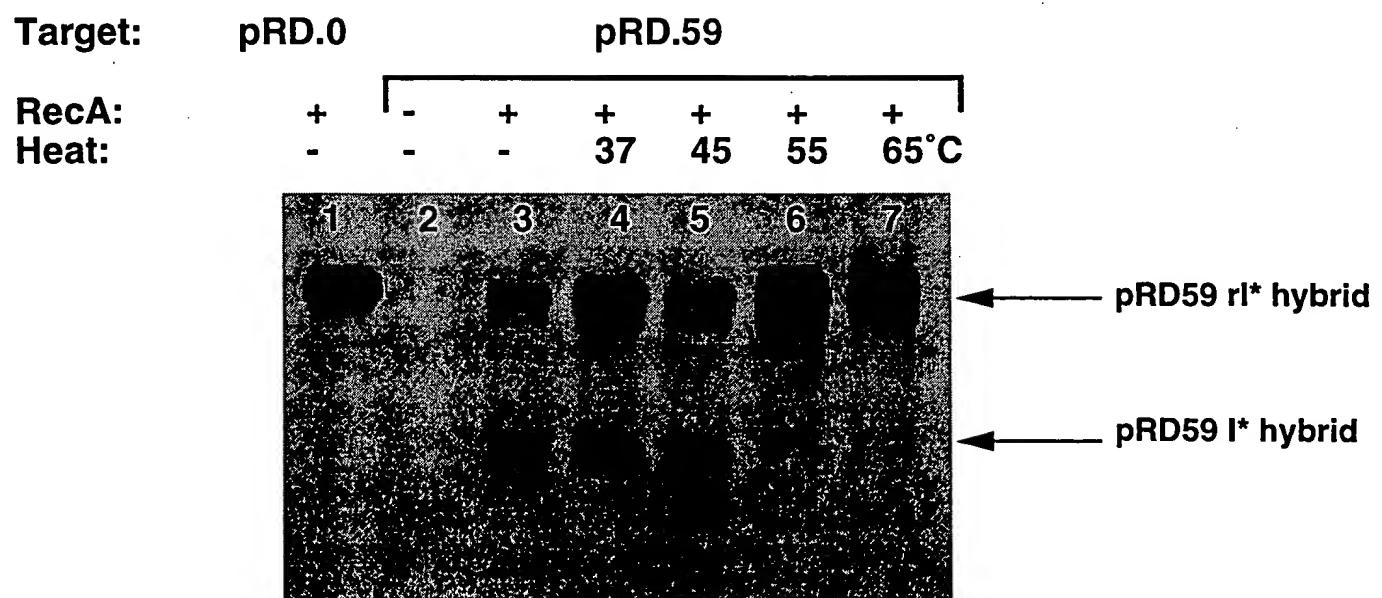
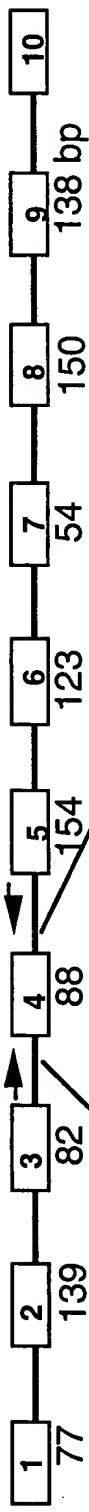


Figure 19

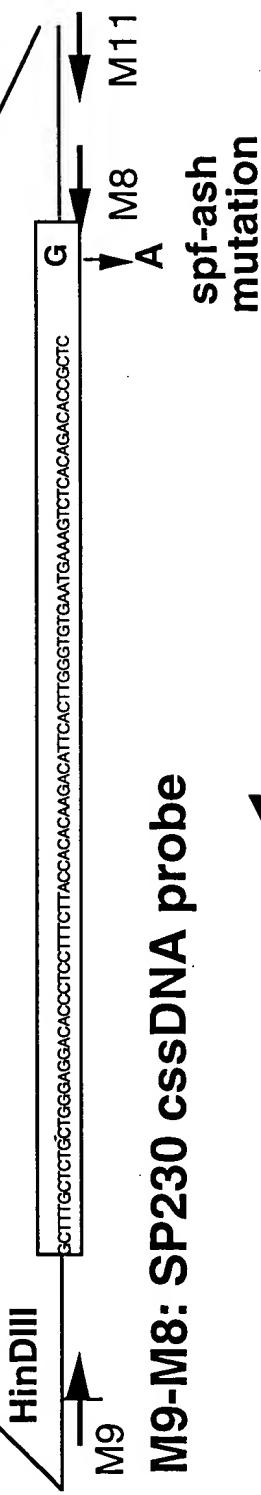


Mouse Ornithine Transcarbamylase Gene

Figure 20A



Exon 4



M9-M10/M11: SP230 cSSDNA probe

Figure 20B

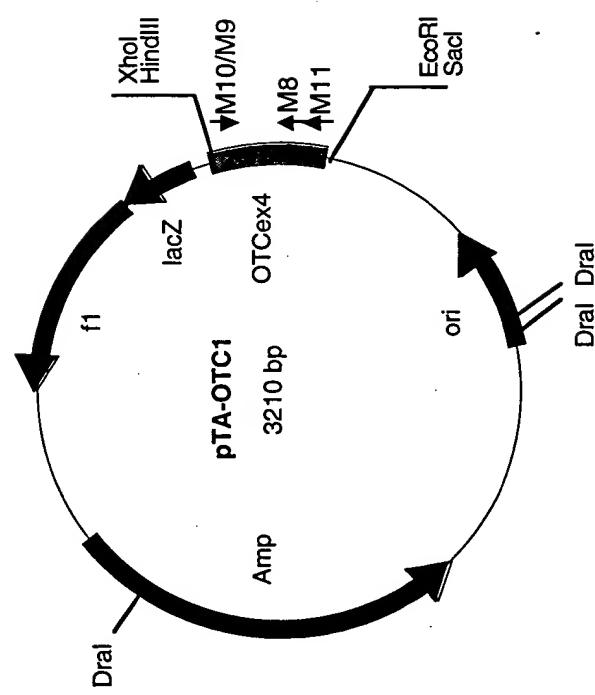


Figure 21 OTC exon4 DNA sequence determination

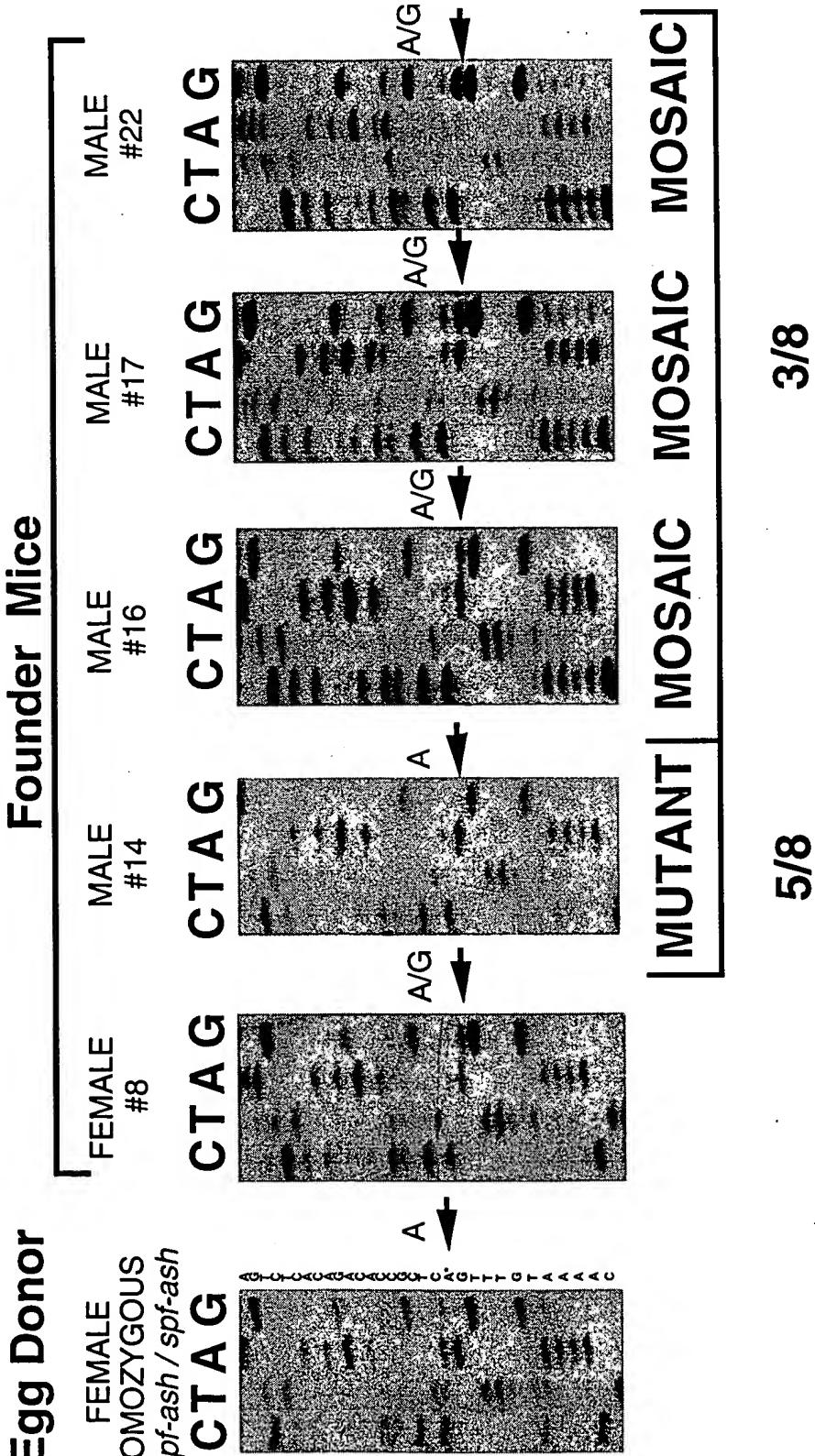


Figure 22 Germline Transmission of EHR Corrected OTC+ Allele

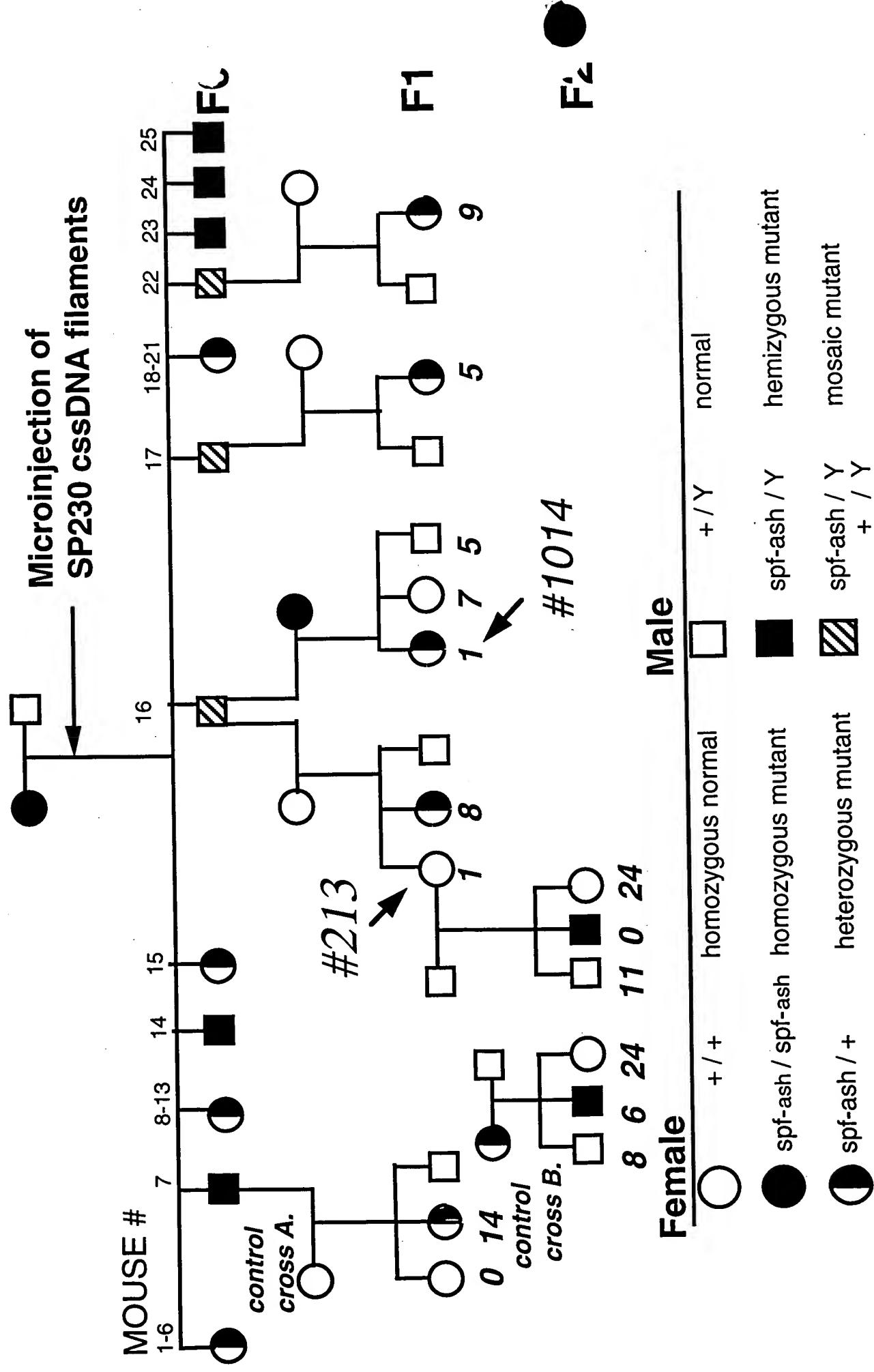


Figure 23 Germine Transmission of Corrected Allele of F0 Male #16

